

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Kotewicz *et al.*

Appl. No. 10/024,149

Filed: December 21, 2001

For: **Cloned Genes Encoding Reverse
Transcriptase Lacking RNase H
Activity**

Confirmation No. 4033

Art Unit: 1652

Examiner: *To Be Assigned*

Atty. Docket: 0942.049000A/RWE/MTT

Fourth Supplemental Information Disclosure Statement

Commissioner for Patents
Washington, D.C. 20231

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. The numbering on this Fourth Supplemental Information Disclosure Statement is a continuation of the numbering in Applicants' Third Supplemental Information Disclosure Statement filed herewith in connection with the above-captioned application. Except for document AC1, which was submitted in parent U.S. Application No. 09/220,330, copies of the cited documents were cited or submitted in parent U.S. Application No. 08/798,458. Thus, copies of the documents are not enclosed.

Document AR51, listed on the attached PTO-1449, is a copy of a letter dated December 10, 1999, from the ATCC regarding ATCC deposit no. 67555. Applicants submit that a deposit is not necessary to enable the present invention.

Applicants wish to bring to the attention of the Examiner the following information.

In August of 1997, Applicants' litigation counsel (Fulbright & Jaworski L.L.P.) served upon Stephen P. Goff a subpoena which required Dr. Goff's appearance at a deposition. The subpoena also required that Dr. Goff produce documents which referred to reverse transcriptase having reduced RNase H activity, including, for example, laboratory notebooks and other documents evidencing his conception and/or reduction to practice of reverse transcriptase having reduced RNase H activity (See document AS50). Pursuant to the subpoena, Dr. Goff produced

certain laboratory notebooks and other documents, and on December 19, 1997, Applicants' litigation counsel took Dr. Goff's deposition. The transcript of the deposition and/or Dr. Goff's notebooks may contain information which is material to the prosecution of the present application. However, the transcripts and notebooks are protected from disclosure by a court order (See document AT50). Accordingly, in the absence of permission from Columbia University, Dr. Goff's employer, the transcripts and notebooks cannot be disclosed to the U.S. Patent and Trademark Office without violating the court order.

Fulbright & Jaworski L.L.P. contacted counsel of Columbia University and requested permission for Applicants to disclose the transcript and notebooks to the U.S. Patent and Trademark Office. Columbia University refused to give such permission. Applicants submit that they have complied with their duty of disclosure to the full extent allowed by the law.

Applicants also wish to direct the attention of the Examiner to Interference No. 103,140 which was between an application of Goff (07/877,264) and a parent application of Kotewicz *et al.* (07/825,260, which corresponds to U.S. Patent No. 5,405,776).

Where the publication date of a listed document does not provide a month of publication, the year of publication of the listed document is sufficiently earlier than the effective U.S. filing date and any foreign priority date so that the month of publication is not in issue. Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

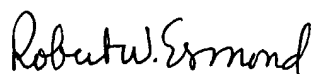
This statement should not be construed as a representation that a search has been made, or that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith. It is further understood that the Examiner will consider information that was cited or submitted to the U.S. Patent and Trademark Office in a prior application relied on under 35 U.S.C. § 120. 1138 OG 37, 38 (May 19, 1992).

This Fourth Supplemental Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. Thus, no statement or fee is required.

Consideration of the cited documents and making the same of record in the prosecution of the above-identified application is respectfully requested. The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.



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Attorney for Applicants
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Date: March 5, 2003

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FORM PTO-1449 FOURTH SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT	ATTY. DOCKET NO. 0942.049000A/RWE/MTT	APPLICATION NO. 10/024,149
	APPLICANTS Kotewicz et al.	
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U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	AA						
	AB						
	AC1	6,063,608	05/16/2000	Kotewicz et al.	435	194	02/10/1997
	AD						
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FOREIGN PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION
	AL1	WO 86/06741	11/20/1986	WIPO			Yes No
	AM						Yes No
	AN						Yes No
	AO						Yes No
	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR		
	AS		
	AT	27	Copeland, T.D. et al., "Amino- and Carboxyl-Terminal Sequence of Moloney Murine Leukemia Virus Reverse Transcriptase," <i>Virology</i> 143:676-679, Academic Press, Inc. (1985).

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OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AR	28	Crouch, R. and Dirksen, M.-L., "Ribonucleases H", in <i>Nucleases</i> , Linn, S. and Roberts, R., eds., Cold Spring Harbor Laboratory Press, Cold Spring Harbor, N.Y., pp 211-241 (1982).
AS	28	Freeman-Wittig, M.-J. et al., "Differential Effects of Captan on DNA Polymerase and Ribonuclease H Activities of Avian Myeloblastosis Virus Reverse Transcriptase," <i>Biochemistry</i> 25:3050-3055, American Chemical Society (1986).
AT	28	Freeman-Wittig, M.-J. et al., "Captan binding to avian myeloblastosis virus reverse transcriptase and its effect on RNase H activity," <i>Mol. Cell. Biochem.</i> 94:9-17, Kluwer Academic Publishers (1990).

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OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

AR	<u>29</u>	Gerard, G., "Comparison of cDNA Synthesis by Avian and Cloned Murine Reverse Transcriptase," <i>Focus</i> 7:1-3, Bethesda Research Laboratories (1985).
AS	<u>29</u>	Gerard, G. et al., "cDNA Synthesis by Moloney Murine Leukemia Virus RNase H-Minus Reverse Transcriptase Possessing Full DNA Polymerase Activity," <i>Focus</i> 14:91-93, Bethesda Research Laboratories (1994)
AT	<u>29</u>	Goff, S.P., "Genetic and Biochemical Approach to the Study of Retroviral Replication", Abstract from the 7 th Annual DNA Congress, San Francisco, CA (March 1987).

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	AR	30	Grandgenett, D. et al., "Activation of an MG^{2+} -Dependent DNA Endonuclease of Avian Myeloblastosis Virus $\alpha\beta$ DNA Polymerase by In Vitro Proteolytic Cleavage," <i>J. Virology</i> 33:264-271, American Society for Microbiology (1980).
	AS	30	Grandgenett, D. et al., "Structural Characterization of the Avian Retrovirus Reverse Transcriptase and Endonuclease Domains," <i>J. Biol. Chem.</i> 260:8243-8249, American Society of Biological Chemists, Inc. (1985).
	AT	30	Green, M. and Gerard, G., "RNA-Directed DNA Polymerase-Properties and Functions in Oncogenic RNA Viruses and Cells," <i>Progress in Nucleic Acid Research and Molecular Biology</i> 14:188-334, Academic Press, Inc. (1974).

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	AR	<u>31</u>	Hansen, J. et al., "Identification and characterization of HIV-specific RNase H by monoclonal antibody," <i>EMBO J.</i> 7:239-243, IRL Press Ltd. (1988).
	AS	<u>31</u>	Hizi, A. et al., "Expression of soluble, enzymatically active, human immunodeficiency virus reverse transcriptase in <i>Escherichia coli</i> and analysis of mutants," <i>Proc. Natl. Acad. Sci. USA</i> 85:1218-1222, National Academy of Sciences (1988).
	AT	<u>31</u>	Hizi, A. et al., "The Effects of Cysteine Mutations on Reverse Transcriptases of Human Immunodeficiency Virus Types 1 and 2," <i>J. Biol. Chem.</i> 267:1293-1297, American Society for Biochemistry and Molecular Biology, Inc. (1992).

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OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	32	Holmes, M. H., "Elimination of Unwanted Restriction Sites from a Plasmid Bearing the Reverse Transcriptase Gene of Moloney Murine Leukemia Virus," University of Maryland, Baltimore County, MD, October 6, 1986.
	AS	32	Hostomsky, S. et al., "Ribonucleases H," in <i>Nucleases</i> , 2 nd ed., Linn, S. and Roberts, R., eds. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY, pp. 341-376 (1993).
	AT	32	Jacobsen, H. et al., "The N-Terminal Amino-Acid Sequences of DNA Polymerase I from <i>Escherichia coli</i> and of the Large and the Small Fragments Obtained by a Limited Proteolysis," <i>Eur. J. Biochem.</i> 45:623-627, Springer (1974).

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AR	<u>33</u>	Katayanagi, K. et al., "Crystal Structures of Ribonuclease HI Active Site Mutants from <i>Escherichia coli</i> ," <i>J. Biol. Chem.</i> 268:22092-22099, American Society for Biochemistry and Molecular Biology, Inc. (1993).
AS	<u>33</u>	Klenow, H. and Henningsen, "Selective Elimination of the Exonuclease Activity of the Deoxyribonucleic Acid Polymerase from <i>Escherichia coli</i> B by Limited Proteolysis," <i>Proc. Natl. Acad. Sci. USA</i> , 65:168-175, National Academy of Sciences (1970).
AT	<u>33</u>	Gerard, G., Inhibition of SUPERScript II Reverse Transcriptase by Common Laboratory Chemicals, Documents regarding CAT Transcription Detection and SuperScript RNase H Reverse Transcriptase brochure, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland Southern Division, Civil Action No. AW96-4080, LTX18287- LTX18318, and LTX18321-LTX18344.

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	AR	34	Margalith, M. et al., "Differential inhibition of DNA polymerase and RNase H activities of the reverse transcriptase by phosphonoformate," <i>Mol. Cell. Biochem.</i> 43:97-103, Martinus Nijhoff/ Dr. W. Junk Publishers (1982).
	AS	34	Mizrahi, V. et al., "Recombinant HIV-1 Reverse Transcriptase: Purification, Primary Structure, and Polymerase/Ribonuclease H Activities," <i>Arch. Biochem. Biophys.</i> 273:347-358, Academic Press, Inc. (1989).
	AT	34	Modak, M.J. and Marcus, S.L., "Purification and Properties of Rauscher Leukemia Virus DNA Polymerase and Selective Inhibition of Mammalian Viral Reverse Transcriptase by Inorganic Phosphate," <i>J. Biol. Chem.</i> 252:11-19, American Society of Biological Chemists, Inc. (1977).

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	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>35</u>	Nakamura, H. et al., "Structural models of ribonuclease H domains in reverse transcriptase from retroviruses," <i>Nucl. Acids Res.</i> 19:1817-1823, Oxford University Press (1991).
	AS	<u>35</u>	Prasad, V. and Goff, S., "Linker insertion mutagenesis of the human immunodeficiency virus reverse transcriptase expressed in bacteria: Definition of the minimal polymerase domain," <i>Proc. Natl. Acad. Sci. USA</i> 86:3104-3108, National Academy of Sciences (1989).
	AT	<u>35</u>	Roth, M. et al., " Purification and Characterization of Murine Retroviral reverse Transcriptase Expressed in Escherichia coli," <i>J. Biol. Chem.</i> 260:9326-9335, American Society of Biological Chemists, Inc. (1985).

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OTHER (Including Author, Title, Date, Pertinent Pages, etc.)			
	AR	<u>36</u>	Schatz, O. <i>et al.</i> , "Point mutations in conserved amino acid residues within the C-terminal domain of HIV-1 reverse transcriptase specifically repress RNase H function," <i>FEBS Lett.</i> 257:311-314, North-Holland Press (1989).
	AS	<u>36</u>	Schatz, O. <i>et al.</i> , "Inactivation of the RNase H Domain of HIV-1 Reverse Transcriptase Blocks Viral Infectivity," <i>Adv. Appl. Biotech. Series</i> 7:293-303, Gulf Publishing (1989)
	AT	<u>36</u>	Skalka and Goff, S. eds., <i>Reverse Transcriptase</i> , Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY (1993).

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	AR	37	Tanese, M. and Goff, S., "Domain Structure of the Moloney Murine Leukemia Virus Reverse Transcriptase: Mutational Analysis and Separate Expression of the DNA Polymerase and RNase H Activities," <i>Proc. Natl. Acad. Sci. USA</i> 85:1777-1781, National Academy of Sciences (1988).
	AS	37	Telesnitsky, A. <i>et al.</i> , "Defects in Moloney Murine Leukemia Virus Replication Caused by a Reverse Transcriptase Mutation Modeled on the Structure of <i>Escherichia coli</i> RNase H," <i>J. Virology</i> 66:615-622, American Society for Microbiology (1992).
	AT	37	Tisdale, M. <i>et al.</i> , "Mutations within the RNase H domain of human immunodeficiency virus type 1 reverse transcriptase abolish virus infectivity," <i>J. General Virology</i> 72:59-66, Society for General Microbiology (1991).

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AR	<u>38</u>	Varmus, H. and Swanstrom, R., "Replication of Retroviruses," in <i>Molecular Biology of Tumor Viruses, RNA Tumor Viruses 2nd ed.</i> , Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY, pp. 369-512 (1982).
AS	<u>38</u>	Zhan, X. et al., "The Isolated RNase H Domain of Murine Leukemia Virus Reverse Transcriptase," <i>J. Biol. Chem.</i> 272:22023-22039, American Society for Biochemistry and Molecular Biology, Inc. (1997).
AT	<u>38</u>	"Defendant's Notice Pursuant to 35 U.S.C. §282," from <i>Life Technologies, Inc. v. Clonetech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland Southern Division, Civil Action No. AW96-4080, pp. 1-8.

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	AN						Yes No
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	AP						Yes No

OTHER (Including Author, Title, Date, Pertinent Pages, etc.)

	AR	<u>39</u>	"Transcript of Motions Hearing Before the Honorable Alexander Williams, Jr., United States District Judge," dated July 13, 1999, pp.1-48 from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.
	AS	<u>39</u>	"Transcript of Motions Hearing Before the Honorable Alexander Williams, Jr., United States District Judge" (Direct examination of Michael Leslie Kotewicz), dated July 13, 1999, pp. 1-65, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.
	AT	<u>39</u>	"Morning Session" (Direct examination of Michael Leslie Kotewicz, cross examination of Michael Leslie Kotewicz, redirect examination of Michael Leslie Kotewicz, recross examination of Michael Leslie Kotewicz, direct examination of Robert Esmond), dated July 14, 1999, pp. 66-163, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.

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FORM PTO-1449 <u>FOURTH SUPPLEMENTAL</u> <u>INFORMATION DISCLOSURE STATEMENT</u>	ATTY. DOCKET NO. 0942.049000A/RWE/MTT	APPLICATION NO. 10/024,149
	APPLICANTS Kotewicz et al.	
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	AO						Yes No
	AP						Yes No

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	AR	<u>40</u>	"Afternoon Session" (Direct examination of Robert Esmond, cross examination of Robert Esmond, direct examination of Harry F. Manbeck, cross examination of Harry F. Manbeck, redirect examination of Harry F. Manbeck, direct examination of Gary Floyd Gerard), dated July 14, 1999, pp.164-259, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.
	AS	<u>40</u>	"Morning Session" (Direct examination of Gary Floyd Gerard, cross examination of Gary Floyd Gerard, redirect examination of Gary Floyd Gerard, direct examination of James J. Champoux, cross examination of James J. Champoux, redirect examination of James J. Champoux), dated July 15, 1999, pp.260-352, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.
	AT	<u>40</u>	"Transcript of Motions Hearing Before the Honorable Alexander Williams, Jr., United States District Judge" (Decision of the court), dated July 16, 1999, pp. 423-451, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.

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AR	<u>41</u>	Garnier, J. et al., "Analysis of the Accuracy and Implications of Simple Methods for Predicting the Secondary Structure of Globular Proteins," <i>J. Mol. Biol.</i> 120:97-120, Academic Press, Inc. (1978)
AS	<u>41</u>	Gerard, G.F., "Chapter 1. Reverse Transcriptase," in <i>Enzymes of Nucleic Acid Synthesis and Modification, Volume I, DNA Enzymes</i> , Jacob, S.T., ed., CRC Press, Inc., Boca Raton, FL, pp. 1-38 (1983)
AT	<u>41</u>	Grandgenett, D.P et al., "A Single Subunit from Avian Myeloblastosis Virus with Both RNA-Directed DNA Polymerase and Ribonuclease H Activity," <i>Proc. Natl. Acad. Sci. USA</i> 70:230-234, National Academy of Sciences (1973)

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	AR	<u>42</u>	Houts, G.E. <i>et al.</i> , "Reverse Transcriptase from Avian Myeloblastosis Virus," <i>J. Virol.</i> 29:517-522, American Society for Microbiology (1979)
	AS	<u>42</u>	Kanaya, S. and R.J. Crouch, "Low Levels of RNase H Activity in <i>Escherichia coli</i> FB2 <i>rnh</i> Result from a Single-Base Change in the Structural Gene of RNase H," <i>J. Bacteriol.</i> 154:1021-1026, American Society for Microbiology (1983)
	AT	<u>42</u>	Moelling, K., "Characterization of Reverse Transcriptase and RNase H from Friend-Murine Leukemia Virus," <i>Virology</i> 62:46-59, Academic Press, Inc. (1974)

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	AR	<u>43</u>	Moelling, K., "Further Characterization of the Friend Murine Leukemia Virus Reverse Transcriptase-RNase H Complex," <i>J. Virol.</i> 18:418-425, American Society for Microbiology (1976)
	AS	<u>43</u>	Old, R.W. and S.B. Primrose, "Cloning cDNA by Homopolymer Tailing," in <i>Principles of Gene Manipulation, An Introduction to Genetic Engineering</i> , 2nd Ed., University of California Press, Los Angeles, CA, pp. 26-27 (1981)
	AT	<u>43</u>	Omer, C.A. and A.J. Fares, "Mechanism of Release of the Avian Retroviruses tRNA ^{Trip} Primer Molecule from Viral DNA by Ribonuclease H During Reverse Transcription," <i>Cell</i> 30:797-805, Massachusetts Institute of Technology (1982)

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AR	44	Toh, H. <i>et al.</i> , "Close structural resemblance between putative polymerase of a <i>Drosophila</i> transposable genetic element 17.6 and <i>pol</i> gene product of Moloney murine leukaemia virus," <i>EMBO J.</i> 4:1267-1272, IRL Press Ltd. (1985)
AS	44	Varmus, H., "Mechanisms Involved in the Synthesis of Retroviral DNA," in <i>RNA Tumor Viruses</i> , Weiss, R. <i>et al.</i> , eds., Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, pp. 410-423 (1982)
AT	44	Defendant's Exhibit No. 14, LTX32496 - LTX32502, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.

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AR	<u>45</u>	Defendant's Exhibit No. 50, LTX34776 - LTX34780, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.	
AS	<u>45</u>	Defendant's Exhibit No. 88, LTX277 - LTX281, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.	
AT	<u>45</u>	Defendant's Exhibit No. 124, LTX35319 - LTX35320, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.	

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AR	<u>46</u>	Defendant's Exhibit No. 136, LTX35341 - LTX35343, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.	
AS	<u>46</u>	Defendant's Exhibit No. 137, LTX35344 - LTX35345, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.	
AT	<u>46</u>	Defendant's Exhibit No. 138, LTX35346 - LTX35348, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.	

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AR	<u>47</u>	Defendant's Exhibit No. 237, LTX6408, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.
AS	<u>47</u>	Defendant's Exhibit No. 238, LTX6409 - LTX6410, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.
AT	<u>47</u>	Defendant's Exhibit No. 259, LTX34739 - LTX34763, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.

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	AR	<u>48</u>	Defendant's Exhibit No. 394, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.
	AS	<u>48</u>	Defendant's Exhibit No. 399, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.
	AT	<u>48</u>	Defendant's Exhibit No. 398, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.

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AR	<u>49</u>	Defendant's Exhibit No. 397, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.
AS	<u>49</u>	Defendant's Exhibit No. 396, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.
AT	<u>49</u>	Defendant's Exhibit No. 401, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.

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	AR	<u>50</u>	Defendant's Exhibit No. 433, from <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , U.S. District Court for the District of Maryland, Southern Division, Civil Action No. AW-96-4080.
	AS	<u>50</u>	"Subpoena in a Civil Case" dated August 21, 1997, served upon Stephen P. Goff, <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , Civil Action No. AW 96-4080, U.S. District Court for the District of Maryland, Southern Division.
	AT	<u>50</u>	"Stipulation and Protective Order Re Confidential Documents of Non-Parties Columbia University and Dr. Stephen P. Goff," <i>Life Technologies, Inc. v. Clontech Laboratories, Inc.</i> , Civil Action No. AW 96-4080, U.S. District Court for the District of Maryland, Southern Division.

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	AR	<u>51</u>	Letter from ATCC to Robert W. Esmond dated December 10, 1999.
	AS	<u>51</u>	Buiser, R.G., et al., "Requirements for the catalysis of strand transfer synthesis by retroviral DNA polymerases," <i>J. Biol. Chem.</i> 266:13103-13109, American Society for Biochemistry and Molecular Biology, Inc. (1991).
	AT	<u>51</u>	DeStefano, J.J., et al., "Polymerization and Rnase H activities of the reverse transcriptase from avian myeloblastosis, human immunodeficiency, and Moloney murine leukemia viruses," <i>J. Biol. Chem.</i> 266:7423-7431, American Society for Biochemistry and Molecular Biology, Inc. (1991)

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	AR	<u>52</u>	Goff, S.P., and Lebel, L.I., "Mutants of murine leukemia viruses and retroviral replication," <i>Biochim. Biophys. Acta</i> 907:93-123, Elsevier Science B.V. (1987)
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